

PATENT LITERATURE FOREIGN BIBLIOGRAPHIC DATABASES:

S1 109162 800694 S REMOTE() CONTROL? OR JOYSTICK?
OR JOY() STICK? OR MANIPULAT?() CONTROL?() DEVIC? OR
GAME() POD? ? OR GAMEPOD?
S2 476886 2750892 S WIRELESS() CONTROL? OR
CONTROL?() (DEVICE? OR APPARATUS? OR APPLIANCE?) OR
GAME() (PAD OR PADS OR PADDLE?)
S3 3619 21691 S PERIPHER?() INPUT?() (DEVICE? OR
APPARATUS?) OR GAME() NAVIGAT? OR TRACKBALL? OR
TRACK?() BALL? ? OR GAMEPAD?
S4 113894 733564 S INPUT() DEVICE? OR
INPUT() OUTPUT() (DEVICE? OR APPARATUS?) OR IO() DEVICE? OR
I() O() DEVICE?
S5 2005 18039 S GRAPHIC() USER() INTERFACE?
S6 847465 3843866 S GRIP? OR HANDGRIP? OR MANUAL?
OR HAND() OPERAT? OR HANDHELD? OR HAND() HELD? OR PORTAB?
S7 2008821 6742413 S TRANSPORTAB? OR COMPACT OR
SMALL OR POCKET? OR PALMHELD? OR PALM() HELD OR MOBILE?
S8 415224 1983001 S MINI OR MINIATUR? OR MOVEAB?
OR HAND() (CARRY? OR CARRIE?) OR WEARAB? OR HANDCARRY? OR
CORDLESS? OR WIRELESS? OR (CORD OR WIRE)() LESS
S9 105842 256675 S PALMTOP? OR PALM? OR PALM() TOP
OR PDA
S10 109677 1641285 S S1:S5 AND S6:S9
S11 1340 16104 S STEER?() WHEEL? OR STEERWHEEL?
OR NAVIGAT?() WHEEL? OR STEERINGWHEEL? OR STEER?() (DEVICE?
OR MECHANISM? OR APPARATUS? OR MEMBER?)
S12 7100 59789 S TILT? OR NUTAT? OR PIVOT? OR
SWIVEL? OR OSCILLAT?
S13 212 1509 S GYROSCOP? OR GYRO() (SCOPE? OR
SCOPIC?) OR TILT() (METER? ? OR METRE? ?) OR GIMBAL? OR
GYMBAL?
S14 110 992 S POLYAXIAL? OR MULTIAXIAL? OR
(POLY OR MULTI)() (AXIS? OR AXES? OR AXIAL?)
S15 440 2545 S (ANGUL? OR ANGLE?) (3N) (MOTION?
OR MOVING? OR MOVE? ? OR MOVEMENT?)
S16 1469 7640 S (ADJUST? OR MODIF? OR ADAPT?
OR RECONFIG? OR ALTER?) (3N) (MOTION? OR MOVING? OR MOVE? ?
OR MOVEMENT?)
S17 670 3304 S (CHANGE? OR CHANGING? OR
CHANGAB? OR CUSTOM? OR PERSONALI? OR
INDIVIDUALI?) (3N) (MOTION? OR MOVING? OR MOVE? ? OR
MOVEMENT?)

S18 40 412 S PITCH? (5N) ROLL? (5N) (YAW OR
YAWS OR YAWED OR YAWING)
S19 0 0 S SOMATOGLYR? OR SOMATOGRAV? OR
SOMAT? () (GYRO? OR GYRA? OR GRAVI?)
S20 6820 42574 S FORWARD? OR REVERS? OR
AXIAL? () DIRECTION? OR (LEFT(2N)RIGHT) () DIRECTION? OR
TURN? (2N) (LEFT OR RIGHT OR DIRECTION? OR CORNER? OR
RIGHT () ANGLE?)
S21 860 2823 S BACKWARD? OR STRAIGHT() AHEAD?
S22 434 3729 S LEFT() HAND? OR RIGHT() HAND?
S23 15 86 S (NO()) HAND? OR REGARDLESS? OR
ABSENT? OR CUSTOM? OR RECONFIG? OR CONFIG? OR ADAPT? B? OR
CONFORM? OR MODIF? OR ALTER? OR CHANGE? OR
CHANGING) (2N) (HAND? OR DEXTER?) (2N) (PREFER? OR FAVOR? OR
FAVOUR?)
S24 0 0 S AMBIDEXTER? OR AMBI() DEXTER?
S25 410 2804 S (CONSOLE OR SERVER) (2N) (GAME?
OR GAMING) OR GAME SERVER?
S26 1895 16966 S (VIDEO OR INTERNET OR ONLINE
OR ELECTRONIC OR ETHERNET OR COMPUTER? OR
SOFTWARE?) (2N) (GAME? OR GAMING OR TOURNAMENT? OR
COMPETITION?) OR VIDEOGAM? OR COMPUTERGAM?
S27 27 83 S (EXTRANET? OR LAN OR LANS OR
WAN OR WANS OR VPN OR WEB OR CYBER) (2N) (GAME? OR GAMING OR
TOURNAMENT? OR COMPETITION?) OR ONLINEGAM?
S28 0 0 S ELECTRONICGAME? OR CYBERGAME?
OR ONLINEGAME? OR MMOG? (5N) (MULTIMEDIA? OR MULTI() MEDIA OR
ONLINE OR GAME? OR GAMING)
S29 98 419 S ATARI OR NINTENDO OR SEGA OR
XBOX OR PLAYSTATION? OR PS2 OR PLAY() STATION? OR SONYPS2 OR
MSXBOX?
S30 45 155 S NINTENDO OR DREAMCAST OR
CARBOT OR VISTEON OR NAVIMATE OR GAMECUBE OR GAMEGO OR NAMCO
OR GAMEBOY? OR GAME() (BOY OR BOYS)
S31 713 6480 S VIDEOGAME? OR TOY OR TOYS OR
TOYCAR? OR TOYTRUCK? OR CYBERGAME?
S32 13015 47518 S IC=(A63H? OR H01H? OR H04L? OR
G08C? OR G03B? OR H01H?)
S33 18976 36745 S MC=(P36? OR W04? OR W05? OR
P82? OR S06?)
S34 1340 37109 S S10 AND S11
S35 0 0 S S34 AND S12:S19 AND S20:S21
AND S22:S24 AND S25:S33
S36 226 10052 S S34 AND S12:S19
S37 208 8589 S S34 AND S20:S21
S38 24 1337 S S34 AND S22:S24
S39 377 19011 S S36:S38

S40	66	4442	S S39 AND S25:S33
S41	249	16492	S S39 AND AY=1970:2002
S42	276	12660	S S39 NOT AY=2003:2008
S43	294	25484	S S41:S42
S44	19	4071	S S43 AND S38
S45	53	11854	S S43 AND S36 AND S37
S46	86	14612	S S43 AND S36:S37 AND
S1:S5 (10N) S6:S9			
S47	176	29724	S S38 OR S40 OR S44:S46
S48	176	25546	IDPAT (sorted in duplicate/non-duplicate order)
S49	174	25402	IDPAT (primary/non-duplicate records only) ; show files

[File 347] JAPIO Dec 1976-2007/Dec(Updated 080328)
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[File 350] Derwent WPIX 1963-2008/UD=200843
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49/5,K/46 (Item 46 from file: 350) [Links](#)
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0012787123 & & Drawing available
WPI Acc no: 2002-642386/200269
XRPX Acc No: N2002-507744

Remote control device for engine of small vessels, includes pair of potentiometers to perform clutch and throttle control of port and starboard engines, based on operation of rockable control levers in housing

Patent Assignee: NHK MORSE CO LTD (NHKM-N); NIHATSU MOSU KK (NIHA-N)
Inventor: HOSHINA Y

Patent Family (3 patents, 2 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20020090866	A1	20020711	US 20015546	A	20011029	200269	B
JP 2002137795	A	20020514	JP 2000333774	A	20001031	200269	E
US 6675733	B2	20040113	US 20015546	A	20011029	200405	E

Priority Applications (no., kind, date): JP 2000333774 A 20001031; US 20015546 A

A pair of rockable control levers (23,24) located individually on opposite side portions of device housing (22), control port and starboard engines. A pair of potentiometers in the device housing (22), performs clutch and throttle controls of the port and starboard engines, based on operation of control levers, respectively. A pair of locking mechanisms (40,41) hold the respective control levers (23,24) in neutral position.

DESCRIPTION - A displacement sensor for engine control is set in the housing and adapted to deliver a **forward**-control signal for an engine when the control lever is rocked to the front side and to deliver a **reverse**-control signal for the engine when the control lever is rocked to the rear side.

USE - For **remote control** of propellant engine, **steering mechanism** of **small** vessels, also for dial-type knobs for starboard and port engines, dial-type steering knob, etc.

ADVANTAGE - The **remote control device** can be operated with ease, since the direction of operation of the control levers and the moving direction of the vessel are associated with each other, hence the vessel can be steered safely and easily, without requiring any veteran skill.

DESCRIPTION OF DRAWINGS - The figure shows a plan view of **remote control device** for **small** vessel.

22 Housing

23,24 Control levers

40,41 Locking mechanisms

Remote control device for engine of small vessels, includes pair of potentiometers to perform clutch and throttle control of port and starboard engines, based on operation of rockable control levers in housing Original Titles:REMOTE CONTROL DEVICE FOR SMALL SHIP... ...**Remote control device for small vessel... ...Remote control device for small vessel** Alerting Abstract

DESCRIPTION - A displacement sensor for engine control is set in the housing and adapted to deliver a **forward**-control signal for an engine when the control lever is rocked to the front side and to deliver a **reverse**-control signal for the engine when the control lever is rocked to the rear side... ...**USE** - For **remote control** of propellant engine, **steering mechanism** of **small** vessels, also for dial-type knobs for starboard and port engines, dial-type steering knob, etc... ...**ADVANTAGE** - The **remote control device** can be operated with ease, since the direction of operation of the control levers and the moving direction of the vessel are associated with each... ...**DESCRIPTION**

OF DRAWINGS - The figure shows a plan view of **remote control device for small vessel...** Original Publication Data by Authority/ArgentinaPublication No. Original Abstracts: A **remote control device** comprises a **portable housing**, control levers, **steering knob**, locking mechanisms, selector switch, indicators, emergency stop switch, etc. The locking mechanisms can hold the control levers in a neutral position. The housing contains therein potentiometers adapted to deliver electric signal for engine control when the control levers are moved back and forth and a potentiometer **adapted** to deliver electric signal for driving a **steering mechanism** when the **steering knob** is moved from side to side... ... A **remote control device** comprises a **portable housing**, control levers, **steering knob**, locking mechanisms, selector switch, indicators, emergency stop switch, etc. The locking mechanisms can hold the control levers in a neutral position. The housing contains therein potentiometers adapted to deliver electric signal for engine control when the control levers are moved back and forth and a potentiometer **adapted** to deliver electric signal for driving a **steering mechanism** when the steering knob is moved from side to side. **Claims**: What is claimed is: 1. A **remote control device** for a **small** vessel, comprising: a **portable housing**

capable of being **held** by a steersman;a control **lever** attached to the housing and rockable back and forth;a displacement sensor for engine control set in the housing and adapted to deliver a **forward**-control signal for an engine when the control lever is rocked to the front **side** and to deliver a **reverse**-control signal for the engine when the control lever is rocked to the rear **side**; and a locking mechanism capable of holding the control lever in a neutral position.... What is claimed is:1. A **remote control device** for a **small** vessel, comprising:**portable** housing capable of being held by a steersman;a at least one control lever attached to the housing and **rockable back** and forth;a displacement sensor for engine control set in the housing and adapted to deliver a **forward**-control signal for an engine when the control lever is rocked **forward** and to deliver a **reverse**-control signal for the engine when the control lever is rocked **backward**;a locking mechanism capable of holding the control lever in a neutral position;an emergency stop **switch** provided on the **portable housing** for stopping operation of the engine in case of emergency.

49/5, K/52 (Item 52 from file: 350) [Links](#)

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Derwent WPIX

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0012361334 & & Drawing available

WPI Acc no: 2002-303967/200234

Related WPI Acc No: 2003-038474

XRPX Acc No: N2002-237863

Handheld driving simulation game apparatus for simulating movement or driving activities has control device shifting image laterally

Patent Assignee: MATTEL INC (MATV)

Inventor: REHKEMPER S

Patent Family (2 patents, 91 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2002011838	A1	20020214	WO 2001US21950	A	20010712	200234	B
AU 200176884	A	20020218	AU 200176884	A	20010712	200244	E

Priority Applications (no., kind, date): US 2000631819 A 20000803

A control device may create an image on a LCD display (27), which is shifted laterally in response to the number of sensors. The housing (11) may be held by a user grasping handles (12,13) and tilting the housing to slide a toy vehicle (50) laterally upon roller pairs (40-43). Sensors sense the lateral position of the toy vehicle and the control device shifts the image laterally.

USE - In handheld game apparatus simulating movement or driving activities.

ADVANTAGE - Provides an improved handheld driving simulation game apparatus, which combines the action of a scrolled display with authentic toy vehicle movement.

DESCRIPTION OF DRAWINGS - The drawing shows a perspective view of a handheld driving simulation game constructed in accordance with the present invention.

11 housing

12,13 handles
40-43 roller pairs
50 toy vehicle

Abstracts: A game apparatus (10) includes a housing (11) supporting a pair of steering wheel segment handles (12, 13) on each side thereof. The **steering wheel** segment handles (12, 13) support an accelerator button (25) and a brake button (26). The game apparatus (10) includes a housing (11) having a vehicle bed (34) upon which a quartet of rollers (40)(41)(42)(43) are positioned. The housing (11) further supports a liquid crystal display (27) which provides a **forward view of a roadway** (22) depicting the view from a **toy** vehicle supported upon the rollers. An internal motor drive system (not shown) rotates the rollers (40)(41)(42)(43) to spin the **toy** vehicle wheels (51)(52)(53)(54) in accordance with a speed selected by the accelerator button (25) and the brake button (26). A plurality of optical sensors (44)(45)(46) are positioned upon the vehicle bed (34) to sense the lateral position (65) of the **toy** vehicle as the **user** executes turning movement of the **steering wheel** handles (12)(13) and the **toy** vehicle slides laterally.

49/5,K/64 (Item 64 from file: 350) [Links](#)

Fulltext available through: [Order File History](#)

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0010542622 & & Drawing available

WPI Acc no: 2001-145632/200115

XRXPX Acc No: N2001-106423

Control device for playing computer games, comprises fixed bottom part and movable top part with hand operated controls and steering

Patent Assignee: KARLSSON L (KARL-I)

Inventor: KARLSSON L

Patent Family (4 patents, 92 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
SE 199903820	A	20001030	SE 19993820	A	19991022	200115	B
SE 513719	C2	20001030	SE 19993820	A	19991022	200115	E
WO 2001029646	A1	20010426	WO 2000SE2046	A	20001020	200125	E
AU 200111849	A	20010430	AU 200111849	A	20001020	200148	E

Priority Applications (no., kind, date): SE 19993820 A 19991022

The device comprises a top part (1) movably supported by a bottom part (2). The top part comprises a bracket (4) for holding a conventional control and guide section (5) with a gyro, a steering device (18) for moving the top part relative to the bottom part, and hand-operated actuators (21, 22) for operating control buttons (23), these actuators being accessible whilst holding the steering device.

USE - Control device for playing computer games.

ADVANTAGE - The steering and controls give the computer game more realism.

DESCRIPTION OF DRAWINGS - Figure 1 shows a perspective view of a control device for playing a motorbike racing game.

- 1 Top part
- 2 Bottom part
- 3 Helical spring
- 4 Bracket
- 5 Conventional control and guide section with gyro
- 7 Short side of support
- 10 Expander plug
- 12 Adjustment screw
- 15 Base
- 16 Shaft
- 17 Locking screw
- 18 Handlebars
- 19 Holder
- 20 Steering handle
- 21 Accelerator handle
- 22 Brake handle
- 23 Buttons
- 24, 25 Double-arm links
- 26, 27 Slide cables
- 28 Downwards-bent section of front end of support
- 29 Rubber pad
- 30 Spring

Abstracts: of, the user can use to manoeuvre the first section (1) relative to the second section (2), as well as hand-control devices (21, 22) **arranged on the steering device** and positioned **so that** they are easily accessible for the user when grasping the steering device and **arranged to affect** by movement the hand-**control device** (23) with **which the supported** control and guidance device is equipped

A holding device 19 that allows a detachable attachment of the steering device 18 to the first part 1 is arranged on the upper side of the attachment of the support 4 formed from metal plate to the spring device. In the embodiment of the invention described here, the holding device 19 includes clamps that act via a screw device. As the said steering device 18 can be easily exchanged, the fictitious control and hand manoeuvre device according to the invention acquires the advantage that it can easily be equipped with different types of steering device 18 where these have simply been chosen to or given a design to meet the requirements of the game or game scenario in question. In other words, it can be considered to provide the device according to the invention with other steering devices 18 than that shown here. It could, for example, be provided with steering wheels, helms, etc.

As is evident from Fig.1, it is the steering device 18 in the form of a handle bar with which, merely as an example, the embodiment of the invention described here is equipped, together with hand grips 20 at its outer ends that the user can grasp hold of for manoeuvring the first part relative to the second part. Hand-control devices in the form of known controls that more specifically include an acceleration hand-control grip 21 and a brake hand-control grip 22 respectively are arranged in the area of the said hand-grips 20.

Hand-control devices 21,22 are appropriately positioned in such a manner that they are easily accessible for manoeuvring, even when grasping the hand-grip 20.

The said hand-control devices 21,22 or, more specifically, the acceleration hand-control grip and the brake hand-control grip respectively, are arranged to affect by movement the hand-control device that, in the form of the keypads or push-buttons generally designated by 23, is located on the outside of the supported control and guidance device 5 equipped with a gyro. For this purpose, a first and a second double-armed link 24 respective 25 are mounted to pivot on either side of the support 6 formed from metal plate where one of the ends of the double-armed link 24 is joined with the acceleration hand-control grip 21 via a first sliding cable 26 so that it can transfer movement, and where one of the ends of the second double-armed link 25 is joined with the brake hand-control grip 22 via a second sliding cable 27 so that it can transfer movement.

Claims

1. Fictitious control and hand manoeuvre device intended to be used with the type of hand-held control and guidance devices (5) equipped with a gyro that are used to control computer games or similar characterised in that it includes a first section (1) that is supported in a multiple-axial moveable manner by a second section (2) whereby the first section includes a holding device (4) arranged to support and hold in position the control and guidance device (5) equipped with a gyro, a steering device (18) that, by grasping hold of, the user can use to manoeuvre the first section (1) relative to the second section (2), as well as hand-control devices (21,22) arranged on the steering device and positioned so that they are easily accessible for the user when grasping the steering device and that are arranged to affect by movement the hand-control device (23) with which the supported control and guidance device is equipped.
2. Fictitious control and hand manoeuvre device according to claim 1 characterised in that the first section (1), when not affected, is arranged to return to a specific starting position relative to the second part (2).
3. Fictitious control and hand manoeuvre device according to claim 2 characterised in that the holding device (4) includes an adjusting device (11) for adjusting the control and guidance device (5) supported by the first section (1) to a starting position that essentially coincides with the horizontal plane.
4. Fictitious control and hand manoeuvre device according to claim 3 characterised in that the holding device (4) includes a support (6) for supporting the control and guidance device (5) plus means of attachment for firmly attaching the control and guidance device at the support, whereby the adjusting device (11) acts between the support and the control and guidance device.
5. Fictitious control and hand manoeuvre device according to claim 1 characterised in that the first section (1) includes a holding device (19) for the detachable attachment of the steering device (18) to the said first part.

6. Fictitious control and hand manoeuvre device according to any of the previous claims characterised in that the means of obtaining the freedom of movement between the first section (1) and the second section (2) includes a spring device (3) arranged between the two said parts.

7. Fictitious control and hand manoeuvre device according to any of the previous claims characterised in that the means of transferring movement between the hand manoeuvre device (21,22) of the first section (1) and the control device (23) included in the control and guidance device (5) includes sliding cables (26,27) that are arranged to affect by movement the control and guidance device included in the control device via arms (24,25) mounted to pivot on the first part (1) and return springs (30) arranged to interact with these.

8. Fictitious control and hand manoeuvre device according to claim 1 characterised in that the second part (2) is adjustable in height and, when in position for use, is provided with a support (15) at the base such as a foot or similar intended to be placed on a surface beneath it.

49/5,K/66 (Item 66 from file: 350) [Links](#)

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0010273604 & & Drawing available

WPI Acc no: 2000-586450/200055

XRPX Acc No: N2000-433958

Steering system of remote controlled toy vehicle, effects discrete changes in steering position of vehicle based on production of steering movement of vehicle proportional to manual movement of steering mechanism

Patent Assignee: NAMMOTO M (NAMM-I)

Inventor: NAMMOTO M

Patent Family (1 patents, 1 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6113459	A	20000905	US 1998216785	A	19981221	200055	B

An electronic control circuit responds to steering regulator assembly to generate output designed to produce steering movement of vehicle proportional to **manual** movement of **steering mechanism**. A steering effector mounted on vehicle effects discrete changes in steering position of vehicle, based on output of control circuit.

DESCRIPTION - The steering regulator assembly regulates the direction of travel of the vehicle, based on **change** in direction of **movement of steering mechanism** determined by a direction indicator assembly.

USE - For steering of **remote controlled toy** vehicle used by children and as well as by those involved in hobby of model building and model competition.

ADVANTAGE - Regulates, controls and operates vehicle designed to travel over land or

ground surface are alternately to travel over water or in air, hence provides proportional and discrete increments of moment of steering effectuator in realistic fashion.

DESCRIPTION OF DRAWINGS - The figure shows perspective view of components of steering assembly.

Steering system of remote controlled toy vehicle, effects discrete changes in steering position of vehicle based on production of steering movement of vehicle proportional to manual movement of steering mechanism **Original Titles:** Remote toy steering mechanism. **Alerting Abstract** ...NOVELTY - An electronic control circuit responds to steering regulator assembly to generate output designed to produce steering movement of vehicle proportional to manual movement of steering mechanism. A steering effectuator mounted on vehicle effects discrete changes in steering position of vehicle, based on output of control circuit. DESCRIPTION - The steering regulator assembly regulates the direction of travel of the vehicle, based on change in direction of movement of steering mechanism determined by a direction indicator assembly... ...USE - For steering of remote controlled toy vehicle used by children and as well as by those involved in hobby of model building and model competition... **Abstracts:** A steering assembly for vehicles, particularly toy vehicles including a remote control assembly having a steering mechanism mounted thereon in the form of a steering wheel or yoke being manually rotatable wherein movement of the steering wheel causes a proportionate movement in a steering effectuator mounted on the vehicle thus replicating or closely representing the steering operation or "feel" of a conventional vehicle. A plurality of cam lobes are mounted on and move with the steering mechanism and serve to activate a cam following switch which is connected to electronic control circuitry which is designed to effectively control the steering effectuator of... ...to accomplish a discrete change in steering position with each generated pulse in order to closely represent the steering operation of a conventional vehicle. The remote control assembly may be connected to the vehicle by electric wires wherein the generated pulses may be of sufficient power to operate a steering motor associated with the steering effectuator of the vehicle. The remote control may be alternately connected by radio signals such that the generated pulses would signal a companion electronic circuit in the vehicle, which in turn sends... **Claims:** A steering system for a remotely control vehicle comprising:a) a remote control assembly structured to regulate movement of the vehicle and including a steering mechanism structured to be manually moveable in accordance with an intended direction of travel of the vehicle,b) a direction indicator assembly mounted at least partially on said steering mechanism and structured to determine a change in direction of the movement of said steering mechanism,c) a steering regulator assembly connected to said steering mechanism and at least partially moveable therewith,d) said steering regulator assembly structured to regulate a direction of travel of the vehicle,e) electronic control circuitry responsive to said steering regulator assembly to generate an output designed to produce steering movement of the vehicle proportionate to the manual movement of the steering mechanism, and) a steering effectuator mounted on the vehicle and responsive to said electronic control circuitry and structured to effect discrete changes in the steering position of the vehicle based on the output of said electronic control circuitry.

49/5,K/70 (Item 70 from file: 350) [Links](#)

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XRXPX Acc No: N2000-152790

Force feedback interface device for enhancing computer generated environment interactions

Patent Assignee: HASSER C J (HASS-I); IMMERSION CORP (IMME-N); ROSENBERG L B (ROSE-I); SHAHOIAN E J (SHAH-I)

Inventor: HASSER C J; MARTIN K M; RIEGEL J R; ROSENBERG L B; SHAHOIAN E J

Patent Family (24 patents, 81 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1990066997	A1	19991229	WO 1999US14085	A	19990622	200018	B
DE 29922298	U1	20000302	DE 29922298	U	19991220	200018	E
AU 199947074	A	20000110	AU 199947074	A	19990622	200025	E
GB 2343499	A	20000510	WO 1999US14085	A	19990622	200026	E
			GB 20003875	A	20000218		
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			WO 1999US14085	A	19990622		
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DE 29923332	U1	20001207	DE 29923332	U	19990622	200065	E
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US 6184868	B1	20010206	US 1998156802	A	19980917	200109	E
US 20010000663	A1	20010503	US 1998156802	A	19980917	200126	E
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US 6243078	B1	20010605	US 1998103281	A	19980623	200133	E
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he force feedback interface includes a sensor which detects the movement of a user manipulatable object relative to a ground in at least one degree of freedom within a single plane e.g. a mouse, and an actuator which responds to the sensor signals to apply a linear force to the object perpendicular to the plane of object movement, along an axis extending through the object.

DESCRIPTION - INDEPENDENT CLAIMS are included for a force feedback mouse, a force feedback pointing device, and a method for providing force feedback in a mouse **input device**.

USE - For use with **input devices** e.g. mouse (claimed) or other pointing device (claimed), e.g. stylus, tablet, **trackball**, **steering wheel** or **joystick**, for enhancing user interactions in a computer generated environment e.g. experiencing a simulation or virtual reality, using a computer aided design (CAD), or operating a graphical user interface (GUI).

ADVANTAGE - Enhances the interactions and manipulations in computer generated environments such as displayed graphical environments at low cost using simpler components.

DESCRIPTION OF DRAWINGS - The drawing shows a block diagram of a system including a host computer and a force feedback interface device.

CLAIMS are included for a force feedback mouse, a force feedback pointing device, and a method for providing force feedback in a mouse **input device**. ... **USE** - For use with **input devices** e.g. mouse (claimed) or other pointing device (claimed), e.g. stylus, tablet, **trackball**, **steering wheel** or **joystick**, for enhancing user interactions in a computer generated environment e.g. experiencing a simulation or virtual reality, using a computer aided design (CAD), or operating **Abstracts**:Improvements in haptic feedback **control devices** include several embodiments. A haptic feedback **control device** includes a housing and a pair of **moveable** pincher members coupled to the housing. Each pincher member is contacted by a

finger of the user when the device is operated and **moveable** in a degree of freedom approximately within a single plane. An actuator outputs force feedback on the pincher members in the degrees of freedom, and a sensor detects a position of the pincher members in the degrees of freedom. The device housing includes a fixed portion and a **moveable** portion, where the user **grips** both fixed and **moveable** portions. A coupling, such as a flexure, allows the **moveable** portion to move relative to the fixed portion in a direction parallel to an outer surface of the **moveable** portion contacted by the user. An actuator outputs a force on the flexure to cause the **moveable** portion to move, such as an **oscillating** force to cause vibration. These improvements allow a user to feel force feedback and tactile feedback when operating the device. Applications include telemanipulator devices as well as interface devices and **game controllers for computers**. A haptic feedback **control device**, such as a **handheld remote control** or **handheld** game controller, for controlling a graphical object within a graphical display and for outputting forces to a user. A housing includes a button, wherein the.... A haptic feedback planar touch control used to provide input to a computer. A touch **input device** includes a planar touch surface that inputs a position signal to a processor of the computer based on a location of user contact on the.... environment based at least in part on the position signal, or perform a different function. At least one actuator is also coupled to the touch **input device** and outputs a force to provide a haptic sensation to the user contacting the touch surface. The touch **input device** can be a touchpad separate from the computer's display screen, or can be a touch screen. Output haptic sensations on the touch **input device** can include pulses, vibrations, and spatial textures. The touch **input device** can include multiple different regions to control different computer functions. Haptic feedback **control devices** of the present invention include several embodiments. One embodiment includes a housing and a pair of **moveable** pincher members coupled to the housing. Each pincher member is contacted by a finger of the user when the device is operated and **moveable** in a degree of freedom approximately within a single plane. An actuator outputs force feedback on the pincher members and a sensor detects a position of the pincher members in the degrees of freedom. The device housing can include a fixed portion and a **moveable** portion, where the user contacts both fixed and **moveable** portions. A coupling, such as a flexure, allows the **moveable** portion to move relative to the fixed portion in a direction parallel to an outer surface of the **moveable** portion contacted by the user. An actuator outputs a force on the flexure to cause the **moveable** portion to move, such as an **oscillating** force to cause vibration. These improvements allow a user to feel force feedback and tactile feedback when operating the device. Applications include telemanipulator devices as well as interface devices and **game controllers for computers**. A haptic feedback **control device**, such as a **handheld remote control** or **handheld** game controller, for controlling a graphical object within a graphical display and for outputting forces to a user. A housing includes a button, wherein the.... S.... **Claims:** 1. A haptic feedback **control device** for inputting control signals to a computer and for outputting forces to a user of the **control device**, the **control device** comprising: a **grip**; a pair of **moveable** pincher members coupled to said **grip** and each contacted by a finger of said user when said device is operated, each of said pincher members being **moveable** in a degree of freedom, both of said degrees of freedom approximately within a single plane, wherein when a first one of said pincher members.... 1. A device, comprising: a housing having a fixed portion and a **moveable** portion, the **moveable** portion configured to move laterally with respect to the fixed portion; a coupling member coupled to the **moveable** portion and the fixed portion; and an actuator coupled to the coupling member, the actuator configured to output haptic feedback to the **moveable** portion of the housing via the coupling member.... What is claimed is: 1. A joystick apparatus comprising: a base; a grasable handle coupled to the base and **moveable**

in a plurality of rotatable degrees of freedom with respect to the base; a sensor configured to sense movement of the handle relative to the ... housing is movably coupled to a base portion of said mouse by at least one hinge and wherein said user contacts said cover portion with a palm of a hand of said user, said cover portion including at least a portion of a top surface of said mouse housing; at least... ... A haptic **feedback control** device for inputting control signals to a computer and for outputting forces to a user of the **control** device, the **control** device comprising: a grip; a pair of moveable pincher members coupled to said grip and each contacted by a finger of said user when said device is operated, each of said pincher members **being** moveable in a degree of freedom, both of said degrees of freedom approximately within a single plane, wherein when a first one of said pincher... ... wherein said cover portion is movably coupled to said base portion by at least one hinge and wherein said user contacts said cover portion with a palm of a hand of said user, said cover portion including at least a portion of a top surface of said mouse housing; and outputting a 1... What is claimed is: 1. A **handheld** remote control for controlling a device having a graphical object within a graphical display and for outputting forces to a user of the **handheld** remote **control**, the **handheld** remote control comprising: a housing including at least one button, wherein said user engages said button with a finger of said user for the purpose... ... by said user, said sensor providing an output indicative of said user's engagement, said output being transmitted to said device; and control circuitry, local to **said handheld** remote control, controlling said actuator to generate said forces, said forces dependant on said function accessed by said user, thereby providing a tactile sensation to s.

49/5,K/141 (Item 141 from file: 350) [Links](#)

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0004975502 & & Drawing available

WPI Acc no: 1989-370857/198950

Computer vehicle simulator control device - includes handlebar, handwheel and aircraft joystick allowing alternate vehicle simulation

Patent Assignee: CREATIVE DEVICES RE (CREA-N); HOLLOWAY W P (HOLL-I); KONIX PROD LTD (KONI-N)

Inventor: HOLLOWAY W; HOLLOWAY W P

Patent Family (10 patents, 15 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1989011704	A	19891130	WO 1989GB589	A	19890530	198950	B
GB 2220252	A	19900104	GB 198812716	A	19880527	199001	E
AU 198936802	A	19891212				199010	E
EP 438411	A	19910731	EP 1989906187	A	19890530	199131	E
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US 5125843	A	19920630	WO 1989GB589	A	19890530	199229	E
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CA 1311055	C	19921201	CA 600887	A	19890526	199302	E
EP 438411	B1	19940928	EP 1989906187	A	19890530	199437	E
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DE 68918596	E	19941103	DE 68918596	A	19890530	199443	E
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			WO 1989GB589	A	19890530		
KR 199700844	B1	19970120	WO 1989GB589	A	19890530	199933	E
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The **control device** comprises a column (10) rotatably mounted about a transverse axis (11) on spigots (12) operating a transducer (22). A hub member (14) is rotatably mounted at the upper end of the column (10) about an axis (15) operating a transducer (21). A simulated throttle (24) operates a transducer (25), mounted on a base (13).

Mounted onto the hub (14) are either simulated motorcycle handlebars, and aircraft **joystick** or a car **steering wheel**. The column (10) may be locked about the transverse axis (11) by a clamp (23). Other controls may be provided by foot operated pads.

USE - **Computer games**, tests of skill or training purposes.

Abstract ... The **control device** comprises a column (10) rotatably mounted about a transverse axis (11) on spigots (12) operating a transducer (22). A hub member (14) is rotatably mounted.... ...Mounted onto the hub (14) are either simulated motorcycle handlebars, and aircraft **joystick** or a car **steering wheel**. The column (10) may be locked about the transverse axis (11) by a clamp (23). Other controls may be provided by foot operated pads... ...USE - **Computer games**, tests of skill or training purposes. **Equivalent Alerting Abstract**

...The **control device** provides control signals to a computer simulating a vehicle being drive. The control device includes a handle (10) which is **manually** rotatable about a first axis. The handle comprises a handlebar extending outwards from the first axis on either side. The handlebar includes an inner portion (17) and hand **grips** (18). In a first disposition, the hand **grip** is aligned with the inner portion to simulate handlebars of a motor cycle... ...In a second disposition, the hand **grips** are in a position simulating a **joystick** of an aircraft. The inner portions represent spokes and the hand **grips** are generally parallel to one another. The **control device** also includes a hand wheel to simulate a **steering wheel** of a car or the like the hand wheel being adapted to attach onto the hand **grips** when the latter are in the aircraft **joystick** simulating position... **Abstracts:** The **control device**, which provides control signals to a computer simulating a vehicle being driven, includes a handle (10) which is **manually** rotatable about a first axis (11), the handle comprising a handlebar (16) extending outwards from the first axis on either side thereof. The handlebar includes an inner portion (17) and hand **grips** (18) on the ends thereof inner portion, the hand **grips** being slightly curved and obliquely **pivoted** to the respective inner portion of the handlebar in such a way that in a first disposition the hand **grip** is substantially aligned with the inner portion to simulate handlebars of a motor cycle, and in a second disposition the hand **grips** are in position simulating a **joystick** of an aircraft, wherein the inner portions represent spokes and the hand **grips** are generally parallel to one another. Conveniently, the **control device** also includes a hand wheel to simulate a **steering wheel** of a car or the like, the hand wheel being adapted to attach onto the hand **grips** when the latter are in the aircraft **joystick** simulating position... ...The **control device**, which provides control signals to a computer simulating a vehicle being driven, includes a handle 10 which is **manually** rotatable about a first axis 11, the handle comprising a handlebar 16 extending outwards from the first axis on either side thereof. The handlebar includes an inner portion 17 and hand **grips** 18 on the ends thereof inner portion, the hand **grips** being slightly curved and obliquely **pivoted** to the respective inner portion of the handlebar in such a way that in a first disposition the hand **grip** is substantially aligned with the inner portion to simulate handlebars of a motor cycle, and in a second disposition the

hand **grips** are in a position simulating a **joystick** of an aircraft, wherein the inner portions represent spokes and the hand **grips** are generally parallel to one another. Conveniently, the **control device** also includes a hand wheel to simulate a **steering wheel** of a car or the like, the hand wheel being adapted to attach onto the hand **grips** when the latter are in the aircraft **joystick** simulating position... ... The **control device**, which provides control signals to a computer simulating a vehicle being driven, includes a handle (10) which is **manually** rotatable about a first axis (11), the handle comprising a handlebar (16) extending outwards from the first axis on either side thereof. The handlebar includes an inner portion (17) and hand **grips** (18) on the ends thereof inner portion, the hand **grips** being slightly curved and obliquely **pivoted** to the respective inner portion of the handlebar in such a way that in a first disposition the hand **grip** is substantially aligned with the inner portion to simulate handlebars of a motor cycle, and in a second disposition the hand **grips** are in position simulating a **joystick** of an aircraft, wherein the inner portions represent spokes and the hand **grips** are generally parallel to one another. Conveniently, the **control device** also includes a hand wheel to simulate a **steering wheel** of a car or the like, the hand wheel being adapted to attach onto the hand **grips** when the latter are in the aircraft **joystick** simulating position.

...**Claims:** 1. A **control device** for data processing apparatus, said device including a handlebar (16) comprising a first handlebar shaft (17) extending outwardly from one side of a column (10)... second side of said column (10), said handlebar (16) being rotatably mounted to said column (10) for rotation about a first axis (15) such that **manual** rotation of said handlebar (16) about said axis (15) produces a first electrical control signal for transmission to said data processing apparatus, said column (10) being **manually** rotatable about a second axis (11) which is inclined to said first axis (15), and arranged such that rotation of said column (10) about said... second electrical control signal for transmission to the data processing apparatus, each of said handlebar shafts (17) having, at the respective end thereof, a hand **grip** portion (18), characterised in that the second axis (11) is displaced from the first axis (15) and further in that each handle **grip** portion (18) is obliquely **pivoted** to the respective handlebar shaft (17) in such a way that in a first disposition said hand **grip** (18) is substantially aligned with the respective handlebar shaft (17), and in a second disposition said hand **grip** (18) extends away from said second axis (11) in a direction substantially tangential to, or substantially circumferential with, an orbital trajectory around said first axis.

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0004149554

WPI Acc no: 1987-258878/198737

Hand held remote for toy vehicle - has pendulum arm which tends to remain vertical when rest of controller turns and operates steering signal switch

Patent Assignee: KENNEDY M (KENN-I)

Inventor: ARAD A; KENNEDY M; NAGEL D

Patent Family (1 patents, 1 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
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Priority Applications (no., kind, date): US 1986827799 A 19860207

The **remote controller** detects the orientation in space of the controller and provides a corresponding steering signal for the vehicle so that a user may turn and steer the vehicle in response to turning movement of the **hand-held** controller. Radio communications or a tether transmit control signals from the controller to the vehicle. The controller may resemble a **steering wheel**, handle bars, or ship or aircraft controls.

The orientation-detector comprises a pendulum arm (36) which tends to remain vertical when the rest of the controller turns and which operates a steering signal switch (34). A spring (50) urges the pendulum switch to its central neutral position. Turn signal lights are operated when the spring touches contacts (56,58). The controller includes a **forward/ reverse** switch (74) and a horn.

ADVANTAGE - Controller is formed in shape of **steering wheel** or other controls of vehicle being controlled

Hand held remote for toy vehicle... Alerting Abstract ...The **remote controller** detects the orientation in space of the controller and provides a corresponding steering signal for the vehicle so that a user may turn and steer the vehicle in response to turning movement of the **hand-held** controller. Radio communications or a tether transmit control signals from the controller to the vehicle. The controller may resemble a **steering wheel**, handle bars, or ship or aircraft controls... ...urges the pendulum switch to its central neutral position. Turn signal lights are operated when the spring touches contacts (56,58). The controller includes a **forward/reverse** switch (74) and a hornADVANTAGE - Controller is formed in shape of **steering wheel** or other controls of vehicle being controlled. **Title Terms** .../Index Terms/Additional Words: **TOY**; **Claims**:The **remote controller** detects the orientation in space of the controller and provides a corresponding steering signal for the vehicle so that a user may turn and steer the vehicle in response to turning movement of the **hand-held** controller. Radio communications or a tether transmit control signals from the controller to the vehicle. The controller may resemble a **steering wheel**, handle bars, or ship or aircraft controls... ...urges the pendulum switch to its central neutral position. Turn signal lights are operated when the spring touches contacts (56,58). The controller includes a **forward/reverse** switch (74) and a horn.
